



REFORMING ENVIRONMENTALLY HARMFUL SUBSIDIES

A report to the European Commission's DG Environment¹

EXECUTIVE SUMMARY

by

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REFORMING ENVIRONMENTALLY HARMFUL SUBSIDIES (EHS)

EXECUTIVE SUMMARY

The importance of processes to review and potentially reform environmentally harmful subsidies is now well recognised. Increasing policy support has been given to underline that progress is needed, and this has been underlined in numerous policy documents and other statements from all the EU institutions.

- The 6th Environmental Action Programme recognised that *‘the identification and, where possible, removal of environmentally harmful subsidies is a first step towards correcting prices and reducing subsidies’ potential negative effects on the environment’*.
- The 2006 Spring European Council *‘endorsed (...) further exploration of appropriate incentives and disincentives, and the reform of subsidies that have considerable negative effects on the environment and are incompatible with sustainable development, with a view of gradually eliminating them.’*
- In 2004, the Environmental Technologies Action Plan² (ETAP) adopted by the Commission also included a review of environmentally harmful subsidies as one of its priority actions, as it was argued that the removal of these should support the competitiveness of the EU.
- The revised EU’s Sustainable Development Strategy (2006) calls on the European Commission to produce a road map by 2008, for each of the relevant sectors, on the removal of environmentally harmful subsidies (EHS).

Furthermore, some countries have begun discussing the reform of environmentally harmful subsidies in the broader context of a general ecological fiscal reform (EFR). Under EFR, the tax burden is shifted from ‘good’ things such as income and employment and on to ‘bad’ things such as pollution and resource use, while other environmentally adverse incentives, such as subsidies, are removed.

The increased support reflects a number of issues:

- Concern that some subsidies are an **inefficient use of government resources** – notably where the subsidies’ **original rationale is no longer applicable**.
- Concern that some subsidies create **environmental burdens** –e.g. pollution and climate effect; excessive resource use; or other impacts such as on fisheries stock viability, biodiversity, etc.
- Concern that these lead to **inefficient working of the internal market**, and overall impacts on **competitiveness**. It is important to create a **level playing field**.
- Concerns that subsidies can **hinder innovation by locking in old technologies and locking out new ones** and hence undermining the needed innovation developments for a competitive and environmentally-sustainable economy.
- Concerns that **important targets will not be met or be difficult to meet without reforming subsidies** – notably meeting CO₂ reduction targets.

² Communication from the Commission to the Council and the European Parliament *Stimulating Technologies for Sustainable Development: An Environmental Technologies Action Plan for the European Union* - COM(2004)38, 20.01.2004

This report

This report has been commissioned by the European Commission's DG Environment to help add clarity to debate on environmentally harmful subsidy reform and identify some lessons on how to progress so as to facilitate progress. This report gives an overview of the issues relating to the existence and potential reform of environmentally-harmful subsidies, drawing heavily on existing literature, building on a range of specific case studies, but also on the expertise of authors and contributors, as well as on insights from the HGL on energy, competitiveness and the environment, ad hoc group on EHS, held on 7 December 2006

This report was prepared by the Institute for European Environmental Policy (IEEP) (UK and Belgium), with inputs by partners from Ecologic (Germany), FEEM (Italy) and IVM (the Netherlands)³ and benefited from valuable comments and contributions by a range of experts (see acknowledgements).

In recent years, there has been a lot of attention paid to the issue of subsidy reform; in particular, the OECD has led work on this issue over the past decade (e.g. OECD, 1998, 2003, 2005 and 2006; UNEP/IEA, 2002; EEA, 2004). Consequently, a lot of intellectual effort has already been focused on subsidies, their definition and quantification, adverse economic and environmental impacts and the potential for reform. Hence, this report draws heavily on existing sources. However, much of the literature takes a theoretical perspective to subsidies and their reform, which is why this report attempts to offer practical insights into subsidy reform, drawing on case studies and on the knowledge and expertise of the contributors. In particular, a number of case studies were selected and analysed. These were:

Energy

- Coal subsidy reform in Germany, Poland and the UK;
- Reform of VAT, i.e. removal of reduced rates for energy, focusing on Poland; and
- Eco-tax reform in Germany, i.e. reform of exemptions for energy-intensive industries.

Transport

- Aviation subsidies in the EU and in the Netherlands;
- Road infrastructure cost recovery in Switzerland, Germany and Austria;
- Commuter subsidies in Germany and the Netherlands;
- Company car tax reform in the UK; and
- Subsidies for biofuels in the EU, Italy, UK and Czech Republic.

Other subsidies

- Home buying subsidies in Germany;
- Hungarian EHS Reform; and
- Water pricing in the Czech Republic.

³ Contract # 19 under a framework contract with DGENV led by IVM of the Netherlands and involving institutes and companies from across Europe.

Subsidies in other areas (e.g. fisheries, agriculture etc.) were not the specific focus of this report, and are already quite well explored. However some relevant elements have been included in the report.

A. The range of subsidies and definitions of subsidies

There are many types of subsidies, ranging from the most obvious and well-known ones such as

- direct grants, transfers of funds that are clearly visible in some countries' budgets (i.e. on-budget subsidies);
- tax exemptions (which are generally less visible on government accounts, but can be calculated);
- others that are less evident as subsidies (e.g. accelerated depreciation).

Beyond this there are other subsidies that are not always recognised as such: for instance, where prices for goods and services, such as water supply, do not reflect the full costs of provision (i.e. not full cost recovery pricing), or do not reflect the resource costs. A further important category is where there is no internalisation of externalities such as environmental damage (i.e. not following the polluter pays principle).

Many definitions for subsidies exist which are often linked to a specific purpose. Definitions of 'subsidy' exist for the purposes of accounting, trade and policy analysis. A summary of types of subsidies and their coverage, divided between *on-budget* (i.e. visible in budget accounts or estimated from budget accounts) and *off-budget* (i.e. not accounted for in budgets), is given in the Table below. The types of subsidy listed in the Table can be found in the energy and transport sectors, as well as in other sectors of the economy.

Table 1: Mapping types of subsidy to definitions

Type of Subsidy	Definitions of a subsidy			
	ESA	WTO	OECD	Pieters
On-budget subsidies				
Direct transfer of funds, e.g. grants	X	X	X	X
Potential direct transfers of funds, e.g. covering liabilities		X	X	X
Government provides goods or services other than general infrastructure		X	X	X
Government directs other bodies to do any of the above		X	X	X
Off-budget subsidies				
Income or price support		X	X	X
Government revenues due are foregone or not collected, e.g. tax credits*		X	X	X
Tax exemptions and rebates*		X	X	X
Preferential market access		X	X	X
Accelerated depreciation allowances*			X	X

Regulatory support mechanisms, e.g. feed-in tariffs, demand quotas			X	X
Selective exemptions from government standards			X	X
Resource rent for foregone natural resources			X	X
Implicit subsidies, e.g. resulting from the provision of infrastructure				X
Implicit income transfers resulting from a lack of full cost pricing				X
Implicit income transfers resulting from non-internalisation of externalities				X

*The OECD (1998), p. 21, lists as on-budget accelerated depreciation allowances (if selective), preferential sales tax and VAST rates, income tax concessions (if selective), concessional credit and debt write off.

The definition of an environmentally harmful subsidy provided by the OECD (1998 and 2005) is potentially ambiguous, so an alternative definition, which draws on the OECD's definition, might define an environmentally harmful subsidy as:

a result of a government action that confers an advantage on consumers or producers, in order to supplement their income or lower their costs, but in doing so, discriminates against sound environmental practices.

Adapted from OECD (1998 and 2005)

This definition has the advantage that it could encompass a potentially broad range of subsidies, including implicit ones, such as the absence of full cost pricing. The above definition has, however, the further limitation that it only refers to 'action', and not to 'non-action'. In some cases non-action, for instance not applying road pricing to cover costs of roads, or not applying VAT or excise taxes on certain fuels, or not internalising externalities, lead to prices which do not reflect environmental and social costs, thus creating implicit subsidies.

Recommendation: It is proposed that the EU adopt the following rather broad definition of EHS:

a result of a government action or non-action that confers an advantage on consumers or producers, in order to supplement their income or lower their costs, but in doing so, discriminates against sound environmental practices.

Recommendation: While it is of course possible to continue looking at definitions of subsidies, this should not be an argument for delaying efforts to reform those that offer already suitable benefits from reform.

Recommendation: It is important to look at all subsidies not only on-budget subsidies, which would lead to an incomplete picture of subsidisation.

B. Quantifying subsidies

There have been numerous efforts at quantifying subsidies, though in this field there are often divergences of estimates, as different approaches look at different definitions and apply a different coverage of types of subsidies. For example:

- For OECD countries, the most recent data on support for energy production estimated by the IEA suggested that this amounted to US\$20-30 billion (about €15-22.7 billion) a year in 2001 (OECD, 2005).
- Other researchers' estimates that suggest support to energy producers may be closer to US\$80 billion (about €60.6 billion) a year (see van Beers and de Moor, 2001).

These data are both reported by the OECD (2005) to give an idea of the inconsistent and incomplete estimates available on energy subsidies.

Furthermore, the EEA (2004) estimates that the total on- and off-budget energy subsidies (excluding external costs) in the EU-15 were in the order of €29 billion in 2001. The EEA report also underlines that these figures should be regarded as indicative due to the lack of consistent data throughout EU countries and the assumptions that had to be made.

Other examples of quantification of subsidies include:

- *Subsidies for road transport*: data suggest that transport subsidies amount to roughly 225 to 300 billion USD (about €170-230 billion⁴) worldwide. Of these, about 110 to 150 billion USD per year (€130-275 billion⁴) are considered to be 'perverse subsidies' - i.e. subsidies that are harmful to the environment and to the economy (EEA 2005b and Kjellingbro and Skotte (2005)⁵). An updated calculation of level of annual transport subsidisation in Europe (EEA, 2007) identified about € 240 billion spent in transport subsidies in the EU 15. This estimation, based however on incomplete data, covers on-budget, infrastructure (here infrastructure costs minus infrastructure charges), VAT exemptions and fuel tax exemptions.
- *Household fuels*: the authors estimated the subsidies due to VAT reduced rates for EU households to be amounting to €7,3 billion, with €008.7 million for electricity, €130.7 million for natural gas, 114.1€million for fuel oil and €5.6 million for solid fuels (based on Eurostat, 2004 and OECD, 2004).
- *Coal subsidies*: to put some of the numbers into context: in 2005, €2.7 billion (equivalent to €75,000 per mining job) of coal subsidies were spent in Germany. Furthermore, hard coal is the source of primary energy that gets more per unit support in Germany: approximately €1/GJ and 4 cents/kWh (Meyer, 2004),⁶ which is more than the costs of generating electricity from wind turbines.

In addition, the **level of estimates depends on what is being measured and/or what definition is used**. For example:

⁴ Exchange rate 3 March 2007: 1 USD = 0.758585 EUR.

⁵ The authors recognise that this is a very rough estimate ('guesstimate').

⁶ We ought to thank especially Bettina Meyer for sharing her *estimates* with the authors and for agreeing to include them in this report intending in this way to help advance the discussion on the development of methodologies for the quantification of energy subsidies.

- *Subsidies to coal in Germany:* in 2003, State aid for coal accounted for €3.3 billion as measured by DG Competition, State aid Scoreboard. However, if we take into consideration external costs, subsidies by regulation, as well as tax exemptions and financial transfers, hard coal in Germany was subsidized by €2.2 billion, rather than the €3.3 billion in 2003 (Meyer B., 2004).
- *Transport subsidies accounting:* if comparing road investments to receipts from fuel taxes then there appears little subsidy in many countries; if including externalities (environmental and social, including congestion), then there is a clear under-pricing.

The quantification of off-budget subsidies is complex and, in some cases, impossible, as it often requires that the benefit be calculated on the basis of differential treatment against a norm or baseline, which is a subjective decision. Whether off-budget subsidies should be considered as a subsidy remains an area of contention, hence the distinction that the EEA makes between on- and off-budget subsidies.

Recommendation: There is need for more research in order to collect information on off-budget subsidies, especially on implicit and cross subsidies in the EU, for which reporting is incomplete and non harmonised.

There are systematic efforts at subsidy quantification in the State Aid Scoreboards, which focused on a those subsidies that link to concerns of State aids. There are, however, fewer cases of systematic national efforts to document subsidies and transparency and completeness are not always evident. A good attempt has been made by the German National Subsidy Report (Meyer, 2004), though even here the authors themselves note that more could be done.

A further point is that some analysis presents snap shot figures for subsidies. However, the historical profiles of subsidies are also relevant; ultimately the cumulative subsidies are the major indicator at hand for the level of support for the activity. This point was made very clearly in the German analysis, where a quick look at current level of subsidies suggests that renewables are obtaining a similar level of subsidy as some fossil fuels; but when comparing cumulative subsidies it is clear that renewables have received only a fraction of the total support granted to coal over the decades, for instance.

Recommendation: If there is to be real progress with the reform of EHS, more countries need to commit to a systematic and comprehensive tracking of subsidies, and report transparently as to the result of the analysis. However, efforts at further quantification should not be used as an excuse for non-action.

C. Insights from case studies and literature

Development of subsidies / subsidy reform

Reform of subsidies has received a lot of rhetorical support, but progress has been less than the support, though there are examples of positive successes. Some examples of reforms include:

- **Decreasing State aid to hard coal.** Since 2001 State aid for coal has decreased in every country, although it remains high for Germany, Spain, France and Poland. Belgium, Ireland, the Netherlands, and Portugal have more or less ceased their state support to the industry.
- Systematic and gradual moves towards **full cost recovery for the provision of basic utilities – energy, water, waste water and waste.** This has been faster for energy than for others, but nevertheless is generally progressing in the other areas, with a speed of reform limited by concerns of affordability and different conceptions of public service responsibilities and obligations. For example water pricing has gone from being virtually free in the Czech Republic in the 1980s as pre-market economy, to being close to recovering full costs now. Water consumption has fallen by half over the period.
- **EU-wide reform of the tax exemption of aviation fuel.** Unilateral attempts at removing this implicit subsidy have encountered several difficulties, and have not usually been successful. Only the Netherlands have successfully introduced (January 2005) a kerosene tax on its limited internal flights, where other countries have attempted its introduction, but backed away and abolished it.
- **Transport infrastructure charging.** Austria, Germany and Switzerland have implemented distance-based HGV charges to recover infrastructure costs, thereby reducing implicit subsidies to shipping by road. With the exception of toll roads, this was first put in place in Switzerland (1 January 2001), and subsequently Austria (1 January 2004) and Germany (1 January 2005; Act: 2002). In addition, a new EU Eurovignette Directive was launched in 9 June 2006 that is a step forward from the earlier version.
- **Commuter subsidies reform** in Germany and the Netherlands. In these countries, as in a number of others, commuter subsidies have been in place including support for car travel. In 2001, in the Netherlands, the travel cost deduction has been restricted to commuters travelling by public transport (and, until 2003, for those travelling by bicycle). In Germany, opposition to efforts for change only allowed for a reduction but not full abolition of support for private transport use for commuting.

The Harmfulness of EHS

Not all subsidies are as environmentally harmful as they would appear at first sight, as in some cases there are ‘policy filters’ in place to reduce impacts. The latter can take the form, for instance, of emissions limits, quality standards, conditionalities, requirements for maintenance. However, in many cases the subsidies are indeed harmful. Examples and insights include:

- **Subsidies to coal extraction or production** have several impacts and distortions. First of all, they lead to **overproduction** of coal, and, in so far as energy is produced through fossil fuel burning, energy consumption. As such, **GHGs emissions are increased**. Secondly, subsidies play a role in **inhibiting changes in the industry**. In the case of the UK, for instance, subsidies to the coal industry are thought to have slowed down the transition to renewable and low pollution energy sources.
- **High costs of environmental damages from mining activities**. A regional institute for economic research (Fronde, Kambeck and Schmidt, 2006) estimated that damages caused by mining activities amounted to several billion Euros.⁷
- **Harm can occur many years after the end of a subsidy**. The UK has some 900 abandoned coal mines, around 400 of which are leaking methane into the atmosphere. Just a part of emissions is capable of being controlled. It is estimated that 52ktonnes of methane are emitted from abandoned mine sites. This is equivalent to about 1MtCO₂; and these emissions represent 1.7% of total GHG produced by the UK. Some is captured (at a cost). Similarly waste intrusion has to be addressed even after closure to avoid groundwater pollution, again at a cost.
- **Harm will increase if nothing is done soon for some subsidies (i.e. cost of inaction)**. For instance, the costs of UK aviation industry contribution to climate change have been estimated at over GBP 2 billion in 2001. Unless action is taken now, CO₂ emissions are expected to increase by 588% between 1992 and 2050. The overall hidden economic costs of the EU aviation sector are now estimated at GBP 14.3 billion a year (3.7 from the UK). These estimates exclude the costs of aviation accidents and accidents services.
- **Costs of lost revenues**. Recent estimates (EEA 2007) note that €4,865 billion in annual commuter-tax deductions were made in Germany, Austria, and Sweden (EEA, 2007). In Germany, initially, the *Entfernungspauschale* caused foregone revenues of around €5.8 billion (Innovations Report, 2005).

Benefits of subsidy reform

The removal of subsidies can have potentially beneficial effects on the economy and the environment. The reason for this is that their existence can adversely affect both the economy and the environment, by making the former inefficient and thus leading to the utilisation of inefficient levels of resources (e.g. fuels) and causing inefficient levels of pollution (e.g. greenhouse gases). The extent of any adverse impact, and therefore the potential benefit of removing the subsidies, depends on numerous factors, such as the details of the subsidy itself, other policy measures in place and the social-economic characteristics of the context in which the subsidised activity takes place. However, subsidy reform is often opposed as a result of real concerns about the, usually short-term, adverse impacts that might result, even though there are often longer-term benefits from removing subsidies. Types of positive benefits expected are:

- Subsidy reform liberates money for environmentally-beneficial investments and may generate more jobs.

⁷ Fronde, Kambeck and Schmidt (2006).

- Subsidy reform liberates industry from lock-in to certain technologies, reduced lock-out and reduced brake on innovation.
- Subsidy reform improves resource efficiency of production and consumption and hence reduces environmental footprints and facilitates moves towards living within the constraints of the planet's resources and eco-systems.

It is important to underline that the benefits of reform require some analysis and depend on the existence of policy filters (i.e. environmental policy), and on the availability (or not) of environmentally friendly technologies / better substitute inputs. It should also be clear that in some cases the benefits will be more evident in the long term rather than in the short term. Furthermore, how the subsidy removal is done can affect the costs and benefits. In many cases a forewarned move and gradual introduction is preferable as it allows the development of substitutes, or accessing available substitutes as well as the social response (e.g. retraining) to address potential social concerns. Note that coal's abrupt subsidy removal in the UK led to significant social hardships. Examples of benefits or estimates of benefits include:

- **CO₂ savings:** the removal of subsidies to the coal industry in Europe and Japan was estimated (Michaelis (1996)) to lead to a reduction of 10 to 50 million tonnes of CO₂. The OECD estimates that removing coal producers' grants and price supports could save 100 million tonnes of CO₂ per year by 2010 in OECD countries, and also **reduce acid gas emissions**. Also, the Germany environment ministry (UBA (2003)) analysed the effects of subsidy reallocation from coal subsidies to two other options: shifting subsidies to heat production from renewable energies would reduce CO₂ emissions by nearly 50 million tons, (5.6% of CO₂ emissions); subsidising energy retrofits of buildings would save 6 million tons (0.7% of CO₂ emissions); CO₂ savings for a no-subsidies scenario have not been identified.
- **Revenues:** following the reform of the tax exemption for kerosene in aviation, the Netherlands' revenues from kerosene tax were approximately €4 Million
- **Reduced draw on government budget:** in Germany, the 2004 reform of commuter subsidies reduced the subsidy by 30%, to €4 billion. The 2006 reform achieved further reductions.
- **Decrease in traffic:** the abolition of excise duty exemption, and the introduction of a kerosene tax of €0.2 per litre, have been estimated as likely to decrease the emissions from air traffic by 25-30 per cent by 2025 in comparison with a business as-usual scenario (German Advisory Council on Global Change (WBGU), 2002).
- **Decrease in car mileage and CO₂:** after the company car tax reform in the UK, it has been estimated that the reduction in business mileage, following the tax reform, was between 300 and 400 million miles or 25,000 to 35,000 tonnes of carbon every year (IR, 2004).
- **Revenues and improved transport efficiency:** the main benefits of introducing road infrastructure cost recovery in Switzerland, Germany, Austria have been economic, shifting infrastructure funding to more of a "user pays" model based on distance travelled and type of vehicle:
 - In Germany, the system collects net charges of €2.5 billion. In addition, the haulage load per vehicle has increased, the number of empty trips has decreased (by 6%) and 6% of road freight has shifted to rail. These

changes have decreased associated emissions of carbon dioxide and other pollutants in Germany (CIT, 2006).

- In Switzerland, the policy has noticeably slowed growth in road freight, but has caused little modal shift. However, because the Swiss policy is based on vehicle weight and emissions, there has been a shift to lower-emission vehicles (CIT, 2006).

Further insights from case studies

In the field of subsidies and subsidy reform there is a lot of speculation on theoretical grounds as to what works and does not work and what the implications of reform could be. In the following paragraphs we include some insights deriving from case studies to complement the theoretical expectations.

Subsidies do not always fulfil their objectives or no longer fulfil their objectives

- *Reform of Reduced VAT rates for energy products in households in Poland:* the original rationale for the coal subsidies was determined by social considerations. Freund and Wallich (1997), however, demonstrated that poor households in Poland benefited much less from energy subsidies than the richer ones. The richer ones use more energy in absolute terms, but also in relative terms. The poorest 20% of the population spent 7.4% of their total expenditures on energy, and the richest 40% more than 10%.
- *Coal subsidies were set up after the war to ensure energy security:* however, with the range of options available and the international markets this is no longer arguably necessary (though the energy security argument is now back on the agenda).
- *Agricultural and fisheries subsidies:* set up to ensure that Europe could feed itself, they are clearly no longer the most efficient means to fulfilling that function.

Subsidies can be a ‘waste of money’

- *Subsidies to hard coal mining industry reform in Germany:* a citizens’ initiative calculated that the necessity of pumping groundwater over a period of many years would use up more energy than the associated coal production could deliver
- *Polish coal subsidies reform:* thanks to export subsidies, Polish mines were able to sell coal on foreign markets for less than the cost of extraction. The annual value of export subsidies for hard coal was 350-450 million USD at the end of the nineties (about €267-343 million^{Error! Bookmark not defined.}) (B.Fiedor and A.Graczyk, 2000). One rationale for this was to obtain foreign currency.

Design insights for subsidies

More attention is needed on the development of guidelines for the design of new subsidies, in order, for instance, to prevent long term subsidisation, lock-in effects and unintended consequences deriving from the ill targeting of subsidies. Either for new subsidies or for the reform of existing subsidies, it is important to bear in mind a number of design insights. The subsidy should:

- Be justified by effective and relevant public interests, be necessary, adequate and proportional to those interests;
- Be selective, transitory, applied within clearly defined periods and conditional to

the adoption of some kind of effort by the beneficiaries to comply with the principles (efficient mitigation measures);

- Only partially cover the costs caused by the polluter (i.e. tax reductions rather than tax exemptions); and
- Not be unnecessarily prolonged (e.g. some have been kept for quite a long time, beyond their natural lives).

Below we offer some preliminary points which should be addressed when designing a subsidy (mostly built on Steenblick, 2006):

- Designers need to put themselves in the role of the recipient and think through how they would respond to incentives;
- Designers need to be clear about the goals of the policy, particularly public goals, and build in criteria that reduce the chance of diversion to non-target beneficiaries;
- Designers need to think in terms of specific environmental and social outcomes, not nebulous (and usually incomplete) objectives, such as ‘renewability’ (biofuels – only the crop is renewable, but a lot of other aspects are not);
- Designers need to ensure that subsidies when launched also include assessment on how they are going to be used and not just on what they are put on;
- Designers need to think through the demand and supply changes;
- Check that the subsidy is well targeted (this issue is particularly pertinent to biofuels);
- The subsidy should have regular review clauses and potential for revision;
- The subsidy should have a finite lifetime;
- Criteria for qualifying for the subsidy should be clear and transparent;
- Care must be taken as regards subsidies with multiple objectives – ideally focused subsidies will be designed for a specific objective, however, in practice multi objectives tend to play a role (necessary to get agreement for the subsidy);
- Is subsidisation a cost-effective choice of allocation of public funds? ⁸
- Is there sufficient and appropriate data available to design the subsidy?

E. Rationales for Reform

There are many different rationales for reform and often there is a combination of rationales behind any reform. Examples include:

- **Economic and budgetary concerns**
 - *Reform of Reduced VAT rates for energy products in households in Poland:* the main drivers of Poland’s decision to move energy from the reduced to the standard VAT rate category and to relax energy price controls were economic and budgetary concerns.

⁸ Cost effectiveness criteria can be difficult to apply globally as there are different motivations and in many case multiple motivations for subsidies.

- The introduction of the fuel tax in the Netherlands for the aviation sector allowed the reduction of the *budget deficit*, generating an estimated €14 million additional revenue.
- *Road infrastructure cost recovery*: in Germany it allowed to cover the costs of damage from transit traffic.
- *Water supply cost recovery*: in the Czech Republic it allowed to cover costs of water provision.
- **Environmental concerns, physical damage, over resource use and other losses**
 - High public disturbance: the level of transit of heavy goods vehicles in Switzerland raised concerns re damage to roads, congestion and pollution.
 - Price signalling to reduce excessive resource use: water pricing, virgin materials (rock, sand, gravel).
 - Environmental damage avoidance: historically this has not been a significant driver for subsidy reform, though with increasing concerns as to climate change, water scarcity etc, this may become more important in the future.
- **Competitiveness, level playing field and internal market**
 - The EU State aid regime has been set up to ensure that MS governments do not unfairly support the competitiveness of their domestic industry through subsidies / State aids and hence encourage the development of level playing fields and appropriate functioning of the internal market.
- **International demands and conditions**
 - *Reform of reduced VAT rates for energy products in households in Poland*: here the reform was brought by the need to comply with conditions imposed by external financial institutions such as the IMF and the World Bank (the latter having invested in Poland's natural gas industry on the condition that gas prices would reach Western European levels by 1996).
- **Political / ideological aims**
 - The reform to coal subsidies in the UK was not only economically driven but part of a broader power/ideological battle, with Conservative government intentions to reduce union power.

Making reform happen: drivers and conditions for reform

Reforming harmful subsidies is a notoriously difficult process and requires a number of drivers and conditions. Generally what works is specific for the case at hand and transferability should not be assumed across countries. However, it is possible to identify key lessons that can help to bring about a successful reform, such as:

- **The need for good quality information and transparency.** This is important so that all those involved in the decision-making process and all those potentially affected by the policy reform are clear as to the rationale behind the proposed reform and its expected effect.
- **Subsidy reform does not happen in isolation.** Subsidy reform should be part of a broader reform package to include, for example, policies to mitigate any potential adverse impacts from the removal of the subsidies.
- **The need for strong leadership and a broad coalition.** There needs to be a champion for the reform, either political or bureaucratic, to galvanise support for the reform and to communicate well with those stakeholders involved or potentially affected.
- **The need for a well-managed process.** It is important to set out clear stages for the reform and to make use of any economically advantageous situations.

Additional, case study supported insights as to drivers and conditions for a reform to be possible and potentially successful include:

- **Recognising that there is a problem**
 - In some cases this is clear, but needs careful and transparent documentation and sometimes rigorous new analysis so as to get the political attention and public support. This is easier in some cases than in others, and sometimes differences of view can be accounted for by different perspectives or different definitions of what constitutes a subsidy.
 - Growth of road traffic and increased transit of heavy goods vehicles across countries (Switzerland, Austria, Germany) and associated costs (repairs, congestions, noise, pollution) to transit countries (often with very little benefit of the transit), creates clear recognition of the problem in these countries and need for (a) recovery of costs; and (b) encouraging a shift from road to rail.
- **Political commitment and appropriate context and signal**
 - *Clear signal through commitment to environmental fiscal reform (EFR):* the Netherlands has been the first EU country to introduce a kerosene tax on domestic flights. It is the government policy to green the tax system (Ministerie van Financiën, 2005): the *political commitment* of the government bodies can be considered as a key driver of reform in the Dutch aviation sector.
 - Broad political commitments to the polluter pays principle (PPP) and the principle of full cost recovery also help (e.g. in the Constitution, in national strategies etc.).
 - The existence of political commitments to environmental targets can help to push EHS reform, where this would facilitate reaching the target (e.g. CO₂ emissions reduction targets).
 - *Getting the context/conditions right:* the revised EU Eurovignette Directive on the charging of heavy goods vehicles for the use of certain infrastructures (2006/38/EC) sets new framework conditions for the implementation of heavy good vehicles (HGV) charges. This improved conditions for road charging and hence full cost recovery and internalisation of externalities over its predecessor, Directive (99/62). Now, differentiation on environmental criteria will be mandatory from

2010 onwards and external costs may in the future be included in the calculation basis for infrastructure costs; however this is not yet assured.

- *Requirements*: in the case of Austria, another driving behind HGV charging force was the obligation to reduce State debt in order to meet the stability criteria of the European monetary union. This led to debts from infrastructure construction being assigned to a private company with the right to recover costs via road tolling.
- **Constitutional / legal action – changing the context and conditions**
 - *Subsidies to coal*: one turning point in coal subsidisation was the decision of the German Constitutional Court in 1994 which declared the “coal penny”—a surcharge on the electricity price introduced in 1974 to support domestic coal— as unconstitutional. This decision required the shift of the subsidy to the Budget.
 - *Subsidies to aviation*: at the EU level, the reform of the sector has been made easier by the introduction of Single European Aviation Market, which supersedes individual ASAs between Member States. Those that remain with third party countries are likely to be substituted with agreements negotiated at EU level. Furthermore, the Energy Products Directive (2003/96/EC) changed the legal environment, allowing Members States to enter into bilateral fuel tax agreements.
- **Positive conditions and seizing the opportunity**
 - *Reform of Reduced VAT rates for energy products in households in Poland*: a favourable circumstance for the VAT and energy price reform was the fact that inflation in Poland was falling continuously. During the 1990s, every single year showed a lower increase of the consumer price index than the previous one (from 586% in 1990 to 7% in 1999). Moreover, real disposable household income showed a remarkable growth. As a result, the share of expenditure on energy in household consumption did not increase over the 1990s despite the real energy price increases
 - *Polish coal*: the recent favourable situation in the world coal market has improved the economic situation of some coal mines, raising questions about the rationale for maintenance of state support for profitable companies. The Ministry of Economy and Labour is considering the withdrawal of financial support for selected mines but faces strong resistance.
 - *Beneficial circumstances and road charging*: Switzerland made use of a “window of opportunity” related to the negotiations with the EU (Balmer 2005).
- **Change of government and opportunities (and risks)**
 - *German coal subsidy reform*: a new government in the federal State of North-Rhine Westphalia helped drive reform.
- **Pressure from other sectors / other providers in the sector**
 - *Aviation tax reform*: there is also increasing pressure from other transport sector for the removal of what they perceive as an unfair advantage to the aviation industry.
- **Change of level of opposition provides an opportunity**
 - *German coal subsidy reform*: public support for the sector has decreased over time, driven by: tight budgets, the decreasing reliance on coal, the decreasing number of jobs involved and a growing public concern about the environment and climate change

- *Polish coal*: for the first time in years, there has been positive feedback from the general public to the idea of questioning the rationality behind earmarking considerable public funds for the mining sector. This has been facilitated by the intensity of current discussions on the efficiency of the sector.
- **Champions need to drive the reform**
 - *Reform of Ecotax exemptions for businesses in Germany*: the Green Party appears to have been a major driving force for reform, together with environmental NGOs. Environmental NGOs have long been advocating a reform of ecotax exemptions and presented elaborated concepts on this matter. Ongoing pressure from the European Commission on competition grounds is also important. That being said, strong leadership on its own it is not a sufficient condition for the reform to happen or to endure. A broad coalition supporting the reform is preferable to avoid setbacks.
- **Transparency**
 - *Transport taxes in Germany*: a major factor in the push for reform of environmentally harmful subsidies is increased transparency. Transparency can stimulate voter opposition to subsidies and make subsidy reform less politically damaging for governments (OECD, 2005).
- **Earmarking of revenues / savings to ‘acceptable’ ends and communication**
 - Opposition to reform may be reduced if the funds generated by the imposition of a kerosene tax are *earmarked for climate policies*.
 - Transparency of external costs generally promotes public acceptance, but it is also an important factor for public acceptance that if charges are raised, other fiscal burdens (vehicle taxes or excise duties) are lowered. The internalisation of external costs requires a thoroughly developed and implemented communication concept.
- **Substitutes or suitable responses are available**
 - *UK Coal*: the existence of natural gas and increasing opportunities for imported coal (and investment in import infrastructures) facilitated the move away from domestic coal.
 - *Heavy goods vehicles and pricing*: rail alternatives are helpful, as there is a danger that the problem simply goes elsewhere.
 - The ability to purchase low energy products (refrigerators, freezers, light bulbs) or access to insulation, important for subsidy reductions to household fuel bills.
 - Alternative means of support should be available where there it is needed (e.g. for very low income households): here other support tools can work.
- **The technology is available**
 - Distance-based road pricing is an area where new technological developments have made possible policy solutions.
- **Understanding and addressing social impacts and concerns**
 - *Reform of reduced VAT rates for energy products in households in Poland*: compensatory measures were taken for those poor families and pensioners that were hit hardest by the higher energy prices. These measures included direct allowances as well as cheap credit from the National Housing Fund to finance the modernisation of local heating sources.
- **Compensation can be vital for a successful reform**

- *Polish coal subsidies reform*: the 1998-2002 restructuring programme provided a generous 'social package' for miners leaving work in the industry.
- **Compromises can be necessary along the long road of reform**
 - *Polish coal subsidies reform*: one element of the detail was to guarantee to the employees of the liquidated mines indefinite employment in other mining operations.
 - More generally there are numerous examples where a less-than-optimal compromise had to be accepted, at least as a first step towards wider reform.
- **Assessing and understanding the implications**
 - *Polish coal*: reforms need to be focused, and analyse the potential cascade impacts on the whole economy. And finally, reforms are not environmental-neutral, and environmental impact assessments need to be carried out.
 - *Swiss HVF fees*: solid scientific work was done to define the level of the fee. Without this approach, it is believed that full cost recovery including external costs, leading to high charging levels, would not have been politically accepted.
- **Underlining and publicising the benefits**
 - *Polish coal subsidies reform*: environmental considerations can play a major role in determining the success of reform. In particular, any efforts directed towards the reduction of GHGs emissions is now likely to be met with more tolerance by the public, given the high political priority that climate change is receiving
- **Reform can cost a lot in the short and medium term, but be worth it in the long term**
 - *Polish coal subsidies reform*: reforming heavily subsidised sectors weighs heavily on State budgets, as generous severance packages are needed for buying support to the reform; such costs are however experienced in the short to medium term, until completion of the reform; otherwise subsidies would remain as high or higher in the long term.

F. Barriers to reform

There are a wide range of barriers to reform of existing EHS. The relative lack of progress with EHS reform and the pervasiveness of subsidies attest to the difficulties of tackling these barriers. Examples include:

- **Vested interests, rent seeking behaviour, and links between particular interests and political parties**
 - *Coal subsidies in Germany*: strong links between particular interests and political parties makes it difficult to introduce reform.
- **Development of a culture of “entitlement” to subsidies**
 - A mentality of entitlement is almost universal amongst those who receive subsidies.
 - The coal mining sector represents a case where this problem has now been substantially tackled; but it has yet to be overcome in agriculture or fisheries, for example.

- Establishing an expectation from the outset that subsidies will be time-limited and degressive may help to limit expectations, but is unlikely to eliminate them.
- **Social concerns**
 - *Coal subsidies in Germany, Spain and Poland:* strong support to avoid job losses from restructuring. This is clearly a *bone-fide* concern in the short term, but less convincing for the long term.
- **‘Bad’ examples from elsewhere**
 - *Coal subsidies in Germany:* the case of Germany is often used by other countries as an argument to maintain subsidies to domestic coal industry.
- **Complexity**
 - *Removal of tax exemptions for fuel in the aviation sector:* both the European Commission and several individual countries (e.g. the UK, Germany) have been considering the removal of tax exemptions on aviation fuel, but they have backed off, as this would entail the re-negotiation of hundreds of bilateral aviation service agreement treaties (ASAs) implementing Article 24 of the Chicago Convention. Reforming the sector is thus legally difficult, in addition to being opposed by the strong lobbying industry.
- **Danger of loss of activity / competitive loss through unilateral action**
 - *Removal of tax exemptions for fuel in the aviation sector:* in Germany, a study commissioned by the Federal Environmental Agency in 2005 (Pearce E., 2005) reached the conclusion that unilaterally removing the tax break on aviation fuel would not have any benefits for the environment, nor reduce the kerosene used by the industry, unless a way could be devised to tax the kerosene used in Germany, regardless of where the planes refuelled. Otherwise, airlines would re-fuel in tax free countries.
- **National interests**
 - *Removal of tax exemptions for fuel in the aviation sector:* while there is strong support for ending fiscal incentives to the aviation sector in policy circles, there is also strong opposition from countries who wish to support their aviation sector. At the EU level noted opponents are Ireland and Spain. Therefore it seems unlikely that the necessary unanimity at EU level will be forthcoming.
- **Policy convergence stifling debate between political parties**
 - It has been suggested that a lack of diversity of political opinion can block open discussion of reform – for example, there is little discussion of serious agricultural reform in some countries, or of reducing fuel tax exemptions
- **Legal, administrative and technological constraints**
 - Legal barriers have been cited as obstacles to full cost internalisation for both aviation and road haulage.
 - Technological barriers have for a long time impeded the implementation of effective road pricing schemes, and even now, incompatibility issues remain between the schemes that have been put in place.
- **Lack of transparency**
 - It is argued that one of the main obstacles to change in the nuclear sector is the substantial lack of information concerning the amounts of public money employed to support nuclear technologies
- **The absence of a clear and well-understood justification for reform**

- It is important that the case be made clearly, transparently and in a manner accessible to the public. There is often a lack of trust for government action and this can undermine support if communication possibilities are not taken into account.
- **Fear of change and mythologies**
 - See below on *Examining the arguments against reform - debunking the myths*.

Examining the arguments against reform: debunking the myths

There are a number of arguments that opponents of reform put forward as obstacles to the reform of environmentally harmful subsidies, in the energy sector in particular. These arguments survive due to a significant lack of information and understanding of subsidies, their scale and their harmful effects. The reality is more complex than opponents of reform often recognise. These ‘myths’ are:

- **Removing subsidies will harm competitiveness:** however, keeping subsidies is bad for long-term competitiveness of the sector; the sector becomes dependent on subsidy and puts strains on public finances and can reduce national competitiveness
- **Removing subsidies will result in job losses:** in the short-term, this can be the case for the specific sector, but compensatory measures can address some adverse short-term impacts and incentives can be put in place to attract investment; also there are possible employment gains from use of monies elsewhere – the net effect depends on relative labour intensities
- **Reforming subsidies will have implications for social equity:** but poorer households are often not the main beneficiaries (e.g. they spend less on energy than middle income households in both relative and absolute terms), so there are better ways of helping the former than broad subsidies
- **Reforming subsidies will adversely impact on energy security;** there is unlikely to be any ‘insecurity of supply’ for coal – one of the most subsidised energy sources – in the EU for the foreseeable future. Also if funds are used for renewables instead it actually can increase security.
- **Removing subsidies will increase imports of similar products:** this may be true in the short term, but not necessarily in the long term as it depends on the effect of the subsidy removal on world prices, and on the long term alternatives (e.g. other fuels for electricity generation).

G. Priorities for reform

From the literature, expert opinion and from the contributions given by experts and stakeholders who attended the HGL on energy, competitiveness and the environmental, ad hoc group on EHS, on 7 December 2006, it was clear that there should be immediate action to reform environmental harmful subsidies. It is not a matter of doing more research but more a matter of engaging the political commitment and practical commitment to action. In particular, there are certain subsidies for which attention is needed, these are (though non inclusion here does not suggest that an item is not important):

- Subsidies for fossil fuel-based electricity production and use in some countries;
- subsidies to aviation and road transport in most countries;
- subsidies to inputs and outputs in intensive agricultural practices – further CAP reform is required;
- subsidies to fishing - further CFP reform is required;
- subsidies to nuclear energy – liabilities and waste – with the current climate change concerns it is important that any progress on nuclear is done with full understanding and full account of its true costs over the whole life cycle;
- subsidies to energy intensive industries – in selective countries;
- subsidies to company cars – in selective countries;
- subsidies for natural resources through non full cost recovery and where resource costs are not taken into account properly (notably water);
- ensuring that, in conformity with the polluter pays principle, future changes to the Eurovignette system maximise the possibilities to charge for external costs.

Regarding future subsidies which would have to be properly designed, the working group highlighted the following: They also noted growing concerns regarding:

- Biofuels – inter alia, to avoid making the mistake of choosing the wrong fuels and source of fuels ;
- Grandfathering (free allocation) of emissions credits, as opposed to auctioning, within the EU Emissions trading scheme (ETS);
- Carbon capture and storage (ensure that risks and liabilities are fully factored in).

This is not an exhaustive list. As regards what to do, this will have to be assessed case by case, but one immediate potential action is for Member States to develop full subsidy assessments and develop and present regular transparent reports about EHS in their countries – covering the full range of subsidies as set out above.

For the case by case assessment the OECD checklist is a valuable tool to explore whether reforming the subsidy can lead to benefits. Clearly it is important to identify whether subsidies exist, whether there are environmental concerns associated with the economic activity, and whether there are policies (i.e. a ‘policy filter’) in place to mitigate any environmental impacts. Then:

1. **Identifying the impact of the policy filter.** If the policy filter adequately addresses the adverse environmental impact resulting from the existence of the subsidy, the removal of the latter might not have any beneficial environmental impact – unless the

filter is amended, accordingly. Hence, the restrictions that the policy filter places on the environmental impacts need to be understood, as does the potential impact on the filter of the subsidy removal.

A subsidy should always be analysed within the circumstances in which the subsidy is set. In fact, in some cases subsidies (especially market price support ones) are accompanied by various production limitations such as: exploitation or production quotas (e.g. in agriculture, fisheries, forestry); limitations of the available infrastructure (e.g. in energy and transport); planning and zoning requirements (e.g. in industry, agriculture, energy, transport); pollution limits (all sectors). If those limitations are maintained, it may be these that determine the overall effect of subsidy removal (Pieters, 2003).

2. **Identifying the existence and relative environmental impacts of alternatives.** As noted above, the existence of subsidies can lead to technology lock-in, whereby more environmentally beneficial alternative technologies are unable to compete as a result of the subsidy in place. Hence, in order to determine whether the environmental impact of the subsidy removal would be beneficial, it is important to identify what the alternatives are and their potential impacts.
3. **Understanding the conditionality of the subsidy.** The existence of a subsidy is usually linked to a point of impact, (e.g. output, input, profits and income), which impact to a higher or lesser extent on the levels of production. Such characterisation, however, is quite theoretical, as real cases are not easily captured in such broad categories. Hence, it is important to understand what these conditions are and assess the impact of removing the subsidy on production levels, including upstream and downstream effects, which, as noted above, is the first linkage between the existence of the subsidy and its environmental impact. The conditionality of a subsidy is particularly important, therefore we analyse below its main elements.

The issue of conditionality is very important. It is in fact very important to determine first whether the subsidy to-be-removed is conditional on input or output levels, if not its removal would affect relative incomes, but not have significant environmental impacts (only those that are affected by changes in relative incomes). In the report we discuss in particular the environmental effects of the removal of subsidies to inputs (variable costs) and output (market price support measures and deficiency payments and sales premiums).

Whilst the OECD criteria are invaluable, it is helpful to add some further simple rules of thumb to help identifying problem areas and whether there is any scope for action in the policy time period available. We have produced a first set of simple questions that a policy maker wants to approach the removal, reform or design of a subsidy should bear in mind.

First, there should be a preliminary assessment: **is there a problem?** This question can be answered by a superficial skimming of the available evidence.

- *Does the subsidy no longer fulfill its original objectives and rationale?*
- Is there a clear and significant environmental impact (i.e. not just appearance of a problem but an actual one)?

- Are the negative impacts (externalities) greater than the benefits (positive externalities)⁹ expected from reform?
- Is there a clear ‘waste of money’ or an inappropriate allocation of government resources?
- Is there an inefficient allocation of resources or does the market not function properly (e.g. were prices to be right)?
- Is the subsidy illegal and/or does it run counter to the letter/spirit of State aid policy?
- Does the subsidy run counter to objectives and principles committed to (e.g. polluter pays principle)?

If the answer to any one of the above questions is in the affirmative, then there is a problem that needs addressing. Evidence gathered from the case studies in this report has highlighted that public opinion is more likely to support subsidy reform if the impacts of the subsidy on the environment or the economy is sufficiently clear. This requires good information provision and transparency.

Of the above, one key element to assess if a subsidy should be removed is to assess if it still fulfils its original objectives and rationale. If not, then this is an important sign that the subsidy is misplaced.

Secondly, given the evidence gathered through the preventive analysis, another question should be addressed: **would subsidies reform address the problem?** Here, the OECD checklist (illustrated in Chapter 7 of the report) provides the appropriate analysis tool to assess whether removing the subsidy would deliver an environmental benefit.

Importantly, there is a third question to ask: **is there the potential means to address the problem?** For instance:

- Is there sufficient information to allow action?
- Is there a political willingness to act?
- Is there a legal basis upon which to act (EU, national)?
- Is there a champion to make it happen?
- Is there bipartisan support (i.e. removing EHS is a process and ideally requires support from both the government and the opposition as the reform can cover several periods of office)?
- Is the timing right (i.e. is there a potential window for action)?
- Is it understood who the potential opponents to the reform are and can their potential opposition be addressed?
- Is there an international dimension to the subsidy in question, and if so, are there opportunities for bilateral or multilateral cooperation in progressive reform?
- Are there potential (set of) compensatory measures that could be taken?¹⁰
- Would the potential *measures* offer benefits (i.e. environmental improvement)?

⁹ This is a non-trivial question as the expectations of benefits are related to an expectation of development – e.g. baseline scenario. In some cases incentives avoid a deterioration of issues. It is also important to look at whether the scenarios used (explicitly or implicitly) are still valid.

¹⁰ Note that subsidies do not act in isolation and hence to reform the subsidy may often require a series of issues to be changed.

This again is not a complete list, which would need to be developed specifically for the specific case. However, it arguably offers a useful checklist of questions that builds on the lessons from the EHS reform processes carried out to date.

What can the EU do?

In general EHS are governed within the realm of Member States taxation, fiscal and budgetary policies, however as we noted in the above paragraphs, the EU has space for action, often supplemental or indirect, however increasingly important.

For example, in the report we have highlighted the potential greening of EU State aid guidelines, within the review processes of State aid Regulations for example through a stronger reliance on competition and its allocation effects.

It has been noted in many circumstances that the Energy Tax Directive allows for too many exceptions. It has been suggested (Thöne, 2006; Markandya, 2006; Soares, 2006; Meyer, 2006) that an Energy Tax Directive revision should move towards further harmonisation of energy taxes in the EU. Also, this harmonisation should be sought earlier than 2014.

Another action that the EU should take forwards for some internalisation of externalities is the inclusion of the aviation sector within the EU Emission Trading Scheme (ETS). Further consideration might be given to inclusion of other transport subsectors into the ETS, and/or consideration of separate solutions e.g. to allow trading of new car specific CO₂ emissions between carmakers. However it is emphasised that suitable solutions are needed here, as it cannot be assumed that inclusion of a new sub sector into the ETS guarantees full internalisation of external costs.

The European Commission could also set a good example within its funding policies, ensuring that these are consistent with the environmental protection and the 'polluter pays' principles. This is particularly sensitive in the area of R&D subsidies and within infrastructure investments under the EU structural funding schemes, in areas, such as new Member States or other economically disadvantaged regions in the EU, where the choice of development options could still influence greatly the environment. Moreover, it could support new research in order to (Markandya, 2006):

- Assist in the analysis of the implications of the removal of subsidies and in the design of support measures;
- prepare indicators of level of EHS by sector and MS available on an annual basis. Use both a fiscal and social cost definition;
- work with Member States to agree on 'reduction rounds' by target dates, much like the reductions of trade tariffs.

The EU could take action in the area of support and through other instruments, such as Communications (Green Papers), or proposing a Framework Directive which addresses specifically the issue of EHS. For example, Impact Assessment Guidelines for EU policy making (update March 2006)¹¹ state that among the environmental impacts, the

¹¹ EC, Impact Assessment guidelines, march 2006 update, SEC(2005)791.

Commission should consider the environmental consequences of firms activities deriving from different policy options, and in particular:

9. Does the option lead to changes in natural resource inputs required per output (e.g. will it lead to more energy intensive production)?
10. does the option make environmentally unfriendly goods and services cheaper or more expensive through changes in taxation, certification, product, design rules, procurement rules etc?
11. does the option promote or restrict environmentally un/friendly goods and services through changes in the rules on capital investments, loans, insurance service etc?
12. will it lead to businesses becoming more or less polluting through changes in the way in which they operate?

There is no enforcement mechanism within the Commission, however, to ensure that these guidelines are effectively integrated in policy making. New guidance will come following an independent evaluation of the IA system, which is expected in April 2007. The hope is that this reform will not downplay the above guidelines.

The EU could also push for reform acceleration on the international level:

- Work with international bodies (e.g. WTO) on time bound programs to reduce EHS worldwide.

The EU is of course not the only actor or indeed even the key actor as regards EHS, this is rather the Member States themselves given their responsibilities for fiscal issues. As regards what to do about this, it will have to be assessed case by case, but one immediate potential action is for Member States to develop full subsidy assessments and develop and present regular transparent reports about EHS in their countries – covering the full range of subsidies.

In addition, it is clear that broad commitments help and countries would benefit from:

- Having statements committing to reform EHS
- Developing specific working groups on EHS to support the priority action in ETAP.
- Commit to environmental tax and fiscal reform (ETR/EFR) with the objective of moving towards getting prices right / social pricing and appropriate fiscal burden allocation.
- Coordinate and communicate with other countries to allow a step wise progress – own initiative open method of coordination.

The process to reforming EHS is expected to be a slow and demanding one, one of small steps but one where the direction is clear. There is a need to make the market work and for this to happen prices need to reflect costs to society; hence there is a need to reform the fiscal systems such that explicit and implicit subsidies are reformed where there is no (longer) any reason for them to be in place. The challenges of climate change, sustainable development and international competitiveness can coincide with the issue of EHS reform, so it is in the interests of governments to tackle the barriers and challenges.